

Thiokol®

POLYSULFIDE BASED SEALANTS

ELASTOMERIC SEALANTS WITH ADHESION AND EXPANSION PROPERTIES

A 2-Part Sealant, Easily Applied with Conventional Caulking Equipment

Thiokol polysulfide based sealants provide a unique bonding action, adhering to all types of structural materials. The elastomeric properties of this sealant overcome the expansion variables in material due to thermal changes, as well as resist weathering and vibration. Easily applied with conventional caulking guns, polysulfide based sealants provide long term assurance against joint leakage.

General Application Instructions

The type of surface, of course, dictates the specific preparatory work required. Generally, for wood or metal, all evidence of foreign material must be completely removed. Dry, clean surfaces are required prior to application. If there is evidence of oil on the surface, it must be wiped with a cloth dipped in a solvent such as xylene. If protective film has been used on aluminum surfaces, it must be removed. No primers are required on most metals or on glass. On masonry and wood, primers are normally used to secure proper bonding. However, it is advisable to consult a representative of a manufacturer of THIOKOL polysulfide type sealants to be certain whether or not a primer is required for the type material specified.

For Curtain Wall Structures

For more than five years polysulfide type sealants have been used for sealing starter panels, mullions and window frames in major curtain wall buildings. Available in a wide range of colors, they provide tight gripping, long lasting cushioning seals.

Typical Properties of Polysulfide Sealants

Available Colors: Standard colors are gray, black and aluminum.

Special colors are available (gold, red, blue, green)

Set time at 75°F: 2 to 6 hr

Time to complete cure at 75°F: 24 to 48 hr

Elongation: Minimum 150%^a

Shore-A hardness: 15 to 45^c depending on choice of fillers

Adhesion in tension: Minimum 10 psi^a

Adhesion in peel: Minimum of 10 lbs per inch^b

Water absorption: Negligible after 4 days immersion at 75°F

Service temperature: -65°F to +250°F

^a—conducted on simulated 2" x 1/2" x 1/2" joint assemblies

^b—conducted following ASTM test procedures

^c—suggested hardness range



School Buildings

With the large expanse of curtain walls used in present day schools, polysulfide based sealants provide the surest way to seal multi-material composition against leakage, and to compensate for the variances in erected mechanical joints. Long protection, plus the attractiveness of complementary colors and advantage of on-the-spot custom sealing makes polysulfide a standard for this field.



Commercial Buildings

From factories to supermarkets, present day building joints are best sealed on-the-spot to protect against weathering, industrial atmosphere and building vibrations.

Thiokol CHEMICAL CORPORATION
Trenton 7, New Jersey



Geodetic



The ability of liquid polysulfide based sealants to flow into varying size joints, fill these voids and cure to a flush surface that will withstand movement, has made this type sealant a "must" in geometrically

designed buildings. On Kaiser domes and virtually all of the present day plastic and metal structures of this nature, the joints are sealed with Thiokol polysulfide sealants.

Concrete

For bonding between concrete slabs or sealing metal/wood to concrete, polysulfide type sealants give a permanent bond, unaffected by extreme environmental conditions.

Copings

On copings, these sealants make possible a new type of flexible water-tight seal that will not harden or drop out and is unaffected by vibration or wind buffeting.



For Proper Application on Masonry

The masonry must have been set at least 28 days before any sealant is applied and all laitance must be removed. The masonry must be dry, dust-free, all extraneous matter removed and must be primed and sealed in accordance with manufacturer's recommendations.





A.

Due to freezing and building movement, cracks of this nature can develop vertically on the building.

B.

A sawed joint is made with the loose block material.



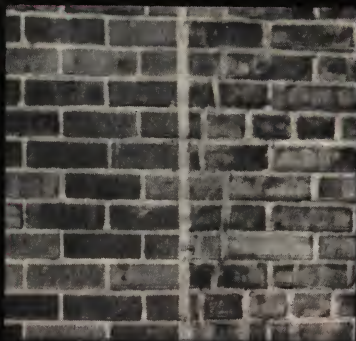
C.

A final expansion joint is shown ready for sealing.



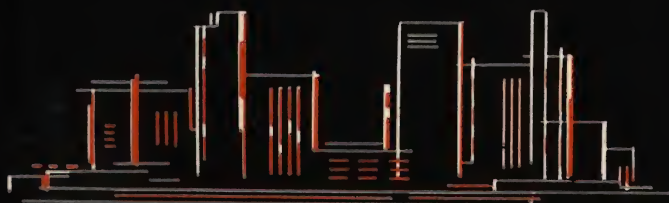
D.

With the polysulfide firmly bonded to each side of the opening, this joint is permanently weather resistant.



Expansion joints

A polysulfide elastomeric expansion joint can provide a safety factor to allow for building thermal changes and at the same time prevent the seepage of water which could freeze and cause cracking of the building walls. Shown here is an illustration of how building cracks can be remedied and expansion joints provided.



Sealing glass

Polysulfide type sealants have the advantage of adhering to glass, as well as other structural material presenting a weatherproof bond and also, act as a cushioning agent for large expansions of glass. These flow in place sealants also minimize problem spots caused by irregularities in glass.



Sealing stone

Polysulfide sealants have excellent adhesion to stone. They provide a permanent, flexible seal that can expand at least 150% over its original dimension without failure. These sealants will not flow or harden under extreme temperature conditions.

Where extremely light-colored or porous stone is used, it has been found that certain adhesive additives used in many compounds may cause "pinking" of the stone. Discoloration can be avoided by the use of a proper primer to obtain the desired adhesion while eliminating certain specific adhesive additives from the polysulfide compound.

There are certain precautions that must be observed in this type of application:

- 1 Proper surface preparation before applying the sealant. The joint must be properly cleaned and all surface dirt, oil, or other extraneous material removed which would cause the sealant to fail due to lack of adhesion.
- 2 Use proper application procedures for sealing white marble and light stone.





Sealing sidewalks

Sidewalks, building and plant floors will last longer, cost less to maintain when sealed with Thiokol liquid polymer-base compounds. These sealants resist chemicals, oils and solvents. They withstand vibration from trucking and heavy machinery. Sealants stay flush and bonded, will not become tacky over a wide temperature range. These sealants allow the flooring materials to expand and contract with temperature changes.

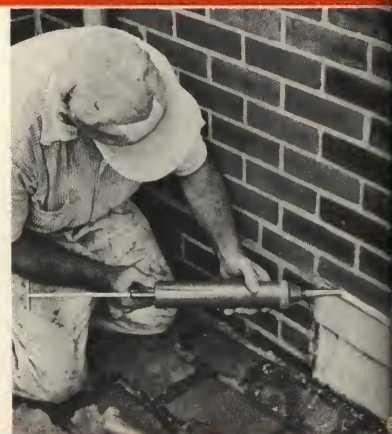
Sealing pipes

Flexible, highly durable Thiokol liquid polymer-base compounds are ideally suited for sealing pipe joints. They resist water and chemicals and have outstanding impermeability to gases. Thiokol liquid polymer-base compounds effectively seal pipe passages, sealing out dust and odors. Their cushioning action dampens vibration of pipes and provides a flexible gasket over a long period of time.



Sealing flashings

Sealants based on Thiokol liquid polymers can be easily applied to form a permanent weatherproof joint, replacing cold solder, pitch or other materials. These sealants are easy to apply and give lasting protection.



Thiokol Chemical Corporation is the manufacturer of the raw material only and does not manufacture a finished sealant.

The following is a partial listing of processors of polysulfide sealants. This list is intended as a guide and not as a recommendation or qualification and should not be used as a basis for acceptance or rejection of compounders' products. For local sources, contact the processors listed.

PROCESSORS

ARMSTRONG CORK COMPANY
Lancaster, Pennsylvania

CARBOLINE COMPANY
32 Hanley Industrial Court
St. Louis 17, Missouri

CHEM-SEAL CORPORATION
12910 Panama Street
Culver City, California

CHURCHILL CHEMICAL COMPANY
3127 East 26th Street
Los Angeles 23, California

COAST PRO-SEAL & MFG. CO.
2235 Beverly Blvd.
Los Angeles, California

DICKS-ARMSTRONG-PONTIUS, INC.
Box 999
Dayton, Ohio

H. B. FULLER COMPANY
Resiweld Department
255 Eagle Street
St. Paul 2, Minnesota

A. C. HORN COMPANIES
2133-85th Street
North Bergen, New Jersey

DAVID E. LONG CORPORATION
220 East 42nd Street
New York 17, New York

MINNESOTA MINING & MFG. CO.
900 Bush Avenue
St. Paul 6, Minnesota

PARR PAINT COMPANY
18312 Syracuse Avenue
Cleveland, Ohio

PECORA INCORPORATED
4th & Sedgley Avenue
Philadelphia, Pennsylvania

PRESSTITE-KEystone
ENGRG. PRODUCTS COMPANY
39th and Chouteau Avenue
St. Louis, Missouri

PRODUCTS RESEARCH COMPANY
3126 Los Feliz Blvd.
Los Angeles, California

L. SONNEBORN SONS, INC.
404 4th Avenue
New York 16, New York

STEELCOTE MFG. COMPANY
3418 Gratiot Street
St. Louis, Missouri

THE TREMCO MFG. COMPANY
8701 Kinsman Road
Cleveland, Ohio

W. F. WEBSTER CEMENT CO.
224 Thorndike Street
Cambridge, Massachusetts

Thiokol

CHEMICAL CORPORATION

**780 North Clinton Avenue
Trenton 7, New Jersey**

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